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(Reprinted, with slight alterations, from "The Transactions of the St. Andrews' Medical Graduates' Association," Vol. I., 1868.)

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LONDON:
JOHN CHURCHILL AND SONS, NEW BURLINGTON STREET.

1868.

CASES OF DISEASE OF THE NERVOUS SYSTEM IN PATIENTS THE SUBJECTS OF INHERITED SYPHILIS.

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It is now widely known, thanks to Mr. Hutchinson, that those who have a particular malformation of the permanent central upper incisor teeth are the subjects of congenital syphilis, Mr. Hutchinson, however, has pointed out that it is rare to find teeth so malformed except in the eldest living of a syphilitic family. Nevertheless he has himself recorded exceptions to this rule, and I have published (London Hosp. Rep., 1864, vol. i., p. 384) the cases of two sisters, each of whom had the deformity of the teeth in a well-marked degree. In this family* were several sufferers from nervous affections, including the two who had malformed teeth. This is, however, the only instance in which I have, in my own practice, seen the malformation in two children of one family. Thus my observations tend to confirm, so far as a small experience can be said to confirm a very large one, the observations of Mr. Hutchinson. It is important to keep in mind the fact that this valuable test of the existence of a

* There were four children. The eldest, a girl of 18, had good teeth, but remains of old iritis, and scars of ulceration at the angles of the mouth. Her general health seemed good. A girl of 15, whose sight was much impaired from choroiditis, and who had imperfect hemiplegia. This child had the malformation in the teeth. A girl aged 12, who had the same malformation and choroiditis. A boy aged 8, paraplegic, partly idiotic, and who had several fits. This boy was quite blind; both optic discs were found to be dirty white, margins obscure, vessels small, and fundus hazy.

syphilitic taint in a family, is to be found usually in but one of the children of that family.

It is to be particularly observed, that although Mr. Hutchinson has described many dental peculiarities in children, he relies only—for a test of congenital syphilis—on a *certain* malformation of the two upper central incisors of the *permanent set*. Normally these teeth are chisel shaped, *i.e. broader* at their cutting edges than at their insertions into the gum. The malformation which Mr. Hutchinson has discovered to be a sign of congenital syphilis consists (First) in a reversal of the normal shape so far as this, that the two teeth above-named are *narrower* at their cutting edges than at their insertions into the gum. Hence they are then, as Mr. Dixon has observed, like "screw-drivers." (Second)—The teeth are often notched. Hence such teeth are often called "notched teeth." It is well to add that Mr. Hutchinson attaches no special importance to "bad teeth," to "irregular teeth," &c., but, I repeat, to a particular kind of malformation of two of the permanent teeth.

In the first of the following cases there is plenty of evidence to show that the patient is deeply syphilised, besides the peculiar shape of the upper central incisors. But in some cases the only thing to draw attention to the possibility of the existence of the taint is the presence of the dental malformation. Now, it is quite true, as I shall afterwards more fully point out, that just such nervous symptoms as the child, Case 1, had, occur in children who present no signs of syphilis. We cannot, therefore, without an autopsy, say with *scientific certainty* that the symptoms are the result of syphilitic disease of the brain.

Putting on one side the easily explained cases of hemiplegia coming on with valvular disease, or with rheumatic or scarlet fever, most cases in young children of hemiplegia after a convulsion, or cases of convulsion, or epilepsy, cannot be satisfactorily explained. It seems to me that Mr. Hutchinson's work will help us greatly in investigating the nature of these obscure cases. It will help us to determine whether some of them are

or are not syphilitic. Now I have, like every one else, made post-mortem examinations of infants who have died of congenital syphilis, but I have not seen an autopsy on a patient above seven years of age, who had died either of congenital syphilis or with symptoms resulting from it. *(See foot note, page 21.)* I must then treat my subject clinically, although this method renders us unable to arrive at decided conclusions.

It must be remarked that whilst one child in a family may present in a very striking manner the signs of congenital syphilis, there may be nothing in the appearance of the patient's brothers or sisters to give rise to suspicion. A short time ago this was impressed on me very strongly. In very many cases of epilepsy we find nothing in a patient's bodily condition by which to account, even in the most general way, for the occurrence of fits. We know scarcely more than that there is a person who has occasionally a convulsion. Such a patient was attending at the Hospital for the Epileptic and Paralyzed, when one day her sister came with her. The sister's body presented in an obtrusive manner the signs of congenital syphilis. These were the peculiar malformation of the teeth, scars about her mouth, and nebulous corneæ. Here, then, the suspicion came with force that the epileptic patient's fits might be due to inherited taint. I say suspicion, as of course there was not evidence to make it certain that the family constitutional state was really the cause of the diseased nervous system of the one who had fits. Besides, the epileptic patient was the elder of the two. The case was such a one as would, I think, generally be called idiopathic or genuine epilepsy. It is all the more desirable when a patient's case appears like the one just mentioned, only as a symptom—a seemingly healthy patient *and* convulsions—that we should extend our line of research in every hopeful direction.

Especially should we follow the example Mr. Hutchinson has set us in studying family histories, and thus we shall get a longer "base line" for the determination of how widely different symptoms arise out of the one degraded bodily state which the offspring of syphilitic parents present. Whilst the eldest child of a family may show external signs of syphilis,

such as nebulous corneæ, scars about the mouth, loss of the uvula, etc., the rest of the family may be undamaged externally, and yet be ready to suffer in more obscure ways from a smaller share in their sad common inheritance. It would seem, in acquired syphilis, at least, that the symptoms are directly due to a fault beginning in a common tissue, the connective, and the wide distribution of this tissue shows how we may have very different symptoms from its failure in organs or parts of high or of low function. When, therefore, a child is brought to us for an affection so painfully obscure as "genuine" epilepsy, it is well to examine the patient's brothers and sisters for signs of syphilis.

I take as my share of the work to be done the record of cases of congenital syphilis when nervous symptoms are present, although I trust these records will show that I do not take too narrow a view of cases in which congenital syphilis led to nervous symptoms.

Case 1.—*Chorea—Epileptic Hemiplegia—Signs of Congenital Syphilis.*

The patient (Sarah W., aged ten) was admitted September 10th, 1866, under my care, into Charlotte Ward, London Hospital, for hemiplegia of the left side. The paralysis of the arm was quite complete, the leg was so weak that the child could not make an approach to standing, and the face deviated to the right. The orbicularis palpebrarum did not seem to be affected, and so far as could be ascertained from the child, there was at least no considerable impairment of sensation. Her general state seemed to be a comfortable one to herself, and she took her food well. The evidence as to the child's mental condition was chiefly negative. She was dull, taciturn, and easily made to cry.

Now as to the evidences of syphilis. The child's corneæ were nebulous, and it seemed certain that she had had interstitial keratitis, a form of eye disease which Mr. Hutchinson's researches show to be frequently associated with the peculiar malformation of the teeth spoken of, as was the case here. The same evidence proves both to be signs of congenital syphilis.

An ophthalmoscopical examination was made, but from the child's inability to keep quiet, and from the partial opacity of the corneæ, no definite results could be obtained. The pupils dilated well with atropine. She had lost nearly the whole of the right ala of the nose and much of the left one, and there were numerous fissures at the angles of her mouth, and many white lines about her face. She had lost the whole of the uvula. The left central incisor was narrowed at its cutting edge, and was notched. The right one had only just appeared. The liver and spleen were not apparently enlarged, and the urine was not albuminous. There was no cardiac murmur, and it may be mentioned that it was afterwards ascertained that the child had never had either rheumatic or scarlet fever.

Subsequent to these investigations I saw the child's mother, and then further evidence was obtained, which confirmed the diagnosis of inherited syphilis. The mother had had three children before the birth of the patient. Two of these three died "at the birth," and one came at half its time. Two younger children are reported to be healthy. The patient was (and this is the usual story) at birth a fine baby, and kept in apparent good health for some weeks. At the age of seven weeks "erysipelas" of the face occurred, and carried away part of her nose. At five years of age she had whooping-cough, and at six, bad eyes. The child was then placed under Mr. Dixon's care, and Mr. Dixon—the mother volunteered this—asked "if there had been anything amiss with the (child's) mother or father." So much for the constitutional history. The history of the nervous symptoms is equally interesting.

In the winter of 1864-5—for what precise length of time was not remembered; "it was most of the winter—" the child had St. Vitus' Dance. The mother is quite positive that the movements affected the left, the now paralysed side; but she is sure that the side of the face was not worked at all. After getting over this illness, the child is reported to have kept in her usual health until August 24th last. On the 23rd she was quite well, and had been out to a school "treat." On

the morning of the 24th on getting up she fell, and could not stand when raised. She was put to bed again, and quickly afterwards she screamed and went into a fit. She foamed, and her mouth was bloody. When the doctor arrived he found that the child had lost the use of her left arm and leg. She did not talk for an hour, but at the end of that time she could talk well, and asked that one of the neighbours might be sent for. At the present time, September 10th, 1868, although taciturn, she can talk properly.

Nothing remains to be said of the history than that the iodide of potassium was given in large doses, and that it did her little good. She went out as she came in, paralysed of the left side, but she could walk a little. I saw her several months later, and then she was just in the same state.

It would be mere laziness to conclude that the two symptoms—chorea and epileptic hemiplegia—were due to syphilis merely because signs of syphilis were present, as we know that these two nervous symptoms are rarely attended by signs of syphilis. I will speak of each symptom separately, and first of the chorea.

Chorea in children, generally occurs in those who are healthy. Many of them are delicate, but they are rarely cachectic. They may be tubercular, but they are not often the subjects of actual tuberculization. And whilst they frequently have heart disease from rheumatism, they generally have no rheumatic symptoms during the chorea, although sometimes the irregular movements set in in the midst of acute rheumatism, or with pains in the joints. They usually become thinner *after* the commencement. I feel sure that it is an exceedingly rare thing to find decided evidence of the *syphilitic* cachexia in a child who has chorea. When clinical assistant to Mr. Poland, at Moorfields, several years ago, I had under my care a girl who had the special form of malformed teeth, and keratitis, and at the same time chorea, and in this case the movements were strictly limited to one side of the body. She got well, but very slowly, both of the keratitis and the chorea, under the use of the iodide of potassium. Yet this case and that of the girl, whose case I have given above, are

the only ones in which I have met with chorea in patients who themselves presented decided evidence of congenital syphilis. I have, however, seen chorea in a girl whose elder sister had the malformed teeth, but this child had heart disease, and her family was very rheumatic *(vide infra)*.

We know neither the seat nor the nature of the tissue changes in chorea. My own opinion is, that chorea depends on plugging* of *small* branches of the middle cerebral artery supplying the convolutions near the corpus striatum, and that this is often brought about by heart disease, the consequence of rheumatic fever.

Now, can syphilis lead to chorea by interfering with the nutrition of these convolutions in an analagous manner?

There being to my knowledge no post-mortem evidence to show how the nervous system is damaged in congenital syphilis, it is fair to see if grounds for the supposition are supplied by a consideration of the cases of adults who have died of or with syphilitic disease of the brain. Dr. Bristowe (Path. Soc. Trans., vol. x.), Dr. Wilks (Guy's Hosp. Reports), and myself ("Lancet," Oct. 27th, 1866, and Lond. Hosp. Reports, vol. iv.),† have recorded cases in which the large cerebral arteries have been plugged, and it is, I think, at least, possible that the smaller branches may be occluded from the same cause. However, I never saw chorea presumably from acquired syphilis, but it is to be remembered that chorea rarely occurs after childhood. The same region must be liable to damage at all ages; embolism may occur at any age, but no doubt the nervous structures and their arterial regions in children are less developed and less educated than in the adult, and thus deterioration of nervous organs will be followed by different

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* I would ask those to whom this hypothesis may seem strange to read a paper by Dr. Kirkes ("Med. Times and Gazette," June, 1863). I will also refer to remarks by myself ("Med. Times and Gazette," January 28, 1865; "Lancet," Nov. 26, 1864; "Lond. Hosp. Reports," vol. i, 1864), and especially to a paper entitled, "The Physiology and Pathology of Chorea" ("Edinburgh Medical Journal," Oct., 1868).

† See a most valuable paper by Dr. Moxon, on Visceral Syphilis, "Guy's Hosp. Reports," 1867-8. The researches of Reade of Belfast, Todd, Russell of Birmingham, Hutchinson, Wilks, and Bristowe, are now well known.

symptoms. But I must grant that the few cases of chorea occurring in people beyond adult age—I have recorded (Brit. Med. Jour., May 18th, 1867) the case of a man aged 74—diminish the value of this inference.

So far then, I think chorea very rarely occurs with evidences of syphilis; frequently with evidence to show that there is a condition (rheumatism or heart disease) under which plugging of vessels is admitted to happen. Yet since in adults plugging of the trunk or of large branches of the middle cerebral artery occurs from syphilis, it is, I hold, possible that the smaller branches of this vessel may be occluded as a consequence of congenital syphilis, and that in young people occlusion brought about in this way may lead to changes allowing the irregular movements we call choreal.

Next, with regard to the hemiplegia following a convulsion. As it is well known that such a kind of palsy occurs in the same way in children whose bodies show no signs of syphilis, and whose family histories warrant no suspicion of it, it would be quite unreasonable to come to a decided conclusion that in the case related syphilis caused the sudden paralysis. It is simply impossible to obtain certainty.

Let us suppose there was a connection. We may fairly take it for granted that the hemiplegia depended on some change in the higher motor tract, probably in the corpus striatum. A more important question than this, is as to the *nature* of the changes in the corpus striatum on which the hemiplegia directly hangs. To say that "congenital syphilis has caused hemiplegia," is to make a statement which even if true is only verbally definite.

If we may follow the evidence afforded by post-mortem examinations on people who have died with disease of the brain, the result of acquired syphilis, there are, at least, three very different ways in which hemiplegia results from syphilis. In not one of the three is nervous tissue primarily at fault. It suffers from the faults of a more vulgar tissue—the connective, and from this at first hand in No. 3 only.

(1) It follows a lump of syphilitic disease of the cerebral hemisphere, distant from the motor tract, as it follows other sorts of lumps similarly placed.*

(2) As already stated, it is sometimes the result of blocking of the middle cerebral artery, the coats of which are already affected by syphilis, and then the hemiplegia is analogous to that caused by plugging from heart disease. For, in each, the change on which the palsy directly depends is softening of the corpus striatum.

(3) It may be the result of a syphilitic nodule which has grown in the motor tract itself, as other sorts of nodules do.

Now, it is perfectly plain that in each of the three instances there is a different thing for treatment, and thus that the term "Syphilitic Hemiplegia" is really most vague. And we see how it is, when we come close to the positive tissue changes, that in undoubted cases of Syphilitic Disease of the Nervous System we quickly cure some of our patients and do no good to others. We cure those patients who come to us for *recent* palsy of cranial nerves; or, in other words, we can easily procure the absorption of *recently* effused lymph, whether it be in a nerve bundle, or in the iris. But in the several sorts of hemiplegia just mentioned, to get rid of the palsy, we have in the 1st, to reverse changes "diffused from a foreign body;" in the 2nd, to treat softening of nerve tissue, the result of cutting off the blood supply by a mechanical obstacle; and in the 3rd only have we to treat actual syphilitic disease which is *then* squeezing nerve tissue. So, I repeat, to speak of treating syphilitic paralysis is to speak with mere *verbal* definiteness.

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* A lump of anything coarse—a new growth, blood-clot, hydatid cyst, etc.—may give rise to changes at a distance from itself. We see part of such changes pretty often by the ophthalmoscope—optic neuritis—and I presume that it is by extension of similar changes to the motor tract—corpus striatum neuritis—that coarse disease in the cerebral hemisphere leads to convulsive seizures and to epileptic hemiplegia. I must here refer for further remarks on this subject to papers I have published: "Roy. Lond. Ophth. Hosp. Reports," vol. iv., part 4; vol. v., part 1; vol. v., part 4; and for a brief summary to the "British Medical Journal," March 28th, 1868. See also "Med. Times and Gazette," Aug. 15th, 1868.

On which of the three changes did the child's palsy depend?

(1) Hemiplegia from a lump of disease in the cerebral hemisphere usually comes on with convulsion, as was the case here. But the hemiplegia so resulting is usually passing, and sooner or later, either before or after, there is severe pain in the head. Optic neuritis is a frequent complication, but its presence could not be established here. In the vast majority of cases there would be further convulsions.

(2) The growth of a nodule in the motor tract is unlikely. Hemiplegia might, it is true, come on suddenly from such disease, or there might be no palsy at all. But I think it most improbable that a nodule so placed would cause a severe convulsion followed by hemiplegia.

(3) I incline to the diagnosis of plugging of the middle cerebral artery, or of some large branch of it, although I admit that in adults plugging of this vessel rarely causes convulsion. In acquired syphilis the cerebral arteries sometimes become nodose, and their channels may be narrowed, and then blocking easily occurs.

So my hypothesis is that each of the symptoms in this case (the irregular movements and the temporary convulsion followed by the permanent hemiplegia), was dependent on blocking—the chorea on that of small branches, and the epileptic hemiplegia on that of the trunk—of the middle cerebral artery. The girl recovered from the chorea, I imagine, because the lesion was slight; she did not recover from the hemiplegia, because a larger vessel being plugged a large quantity of nerve tissue was permanently destroyed.

I next relate several cases in a family in which there was clearly a rheumatic tendency, but also to my thinking a decided syphilitic taint as well. Here, however, the evidence of syphilis rests solely on the malformation of the teeth Mr. Hutchinson has described. Having seen many cases in Mr. Hutchinson's practice in which this malformation was evidently the result of syphilis (see the evidence in his book), I have, for my part, no doubt at all that there was a taint in

this family. To say of the cases that they were Epileptic, etc., would satisfy nobody. The problem is, how did it come to pass that the family suffered so much from nervous symptoms. Martha had fits of a kind for which we usually discover no positive cause. To put her case on one side as one of "genuine" or "idiopathic" epilepsy would not be very profitable. I think it likely that one of her cerebral hemispheres, or perhaps both, had been damaged by syphilis. To inquire in the direction of syphilis and rheumatism is, at all events, to work in a realistic manner. I have fewer doubts as to the case of Mary, on account of the amaurosis (optic atrophy). In young people this symptom points in the vast majority of cases to organic disease within the head. Julia owed her chorea, I imagine, to blocking of small branches of the vessels supplying convolutions near the corpus striatum, and the existence of mitral disease, contenances this opinion. Syphilis most likely had nothing to do with this child's illness.

Cases 2, 3, & 4.—History of Rheumatism; Syphilis?—Epilepsy—Amaurosis—Chorea.

In 1863, Mrs. K., about fifty years of age, brought her eldest daughter to me for epilepsy at the Hospital for Epilepsy and Paralysis, and at the same time consulted me about a younger daughter who passed large quantities of muco-purulent urine. The younger child had well-marked syphilitic teeth, and very recently had had epileptiform attacks and amaurosis.

The mother, who is now healthy looking, had chorea when she was a child, and she remarked "it attacked one side only." She had it a second time, when pregnant with her eldest child, but only for a week. Of course it is doubtful whether the second attack was chorea or not, yet she was confident that it was like the first. She has been pregnant thirteen times, four stillbirths and nine born living ones. Of the nine two died, so that seven are living.

[Subsequently to this note, Mrs. K. had rheumatic fever;

afterwards I found valvular disease, and she died of the effects of this lesion about a year later.]

The eldest living, 20 years of age, is quite healthy, but he had two fits when at school, which, however, his mother says were fainting fits only. It is to be feared, however, they were really epileptic, as it will be seen that his sister Martha had the so-called faints first. Julia has "faints," followed recently by amaurosis. I have little doubt but that he will have genuine fits in time. [I afterwards saw him for an attack of rheumatic fever.]

The next, Martha, aged 16, is the patient who has severe epilepsy. She walked and talked early, but at the age of three months she had a swelling of the right elbow, then in the other joints, then in the back. She was ill three weeks and was then well, and kept well generally until she had the fits. About a year before the fits she had measles, followed by whooping-cough, but has had no cough nor any evident tuberculous symptoms since. When ten years old she began to have attacks, in which at first she was simply giddy, and her mother said "would almost fall;" sometimes, when standing up she would shake all over. Up to this time she had been quick and intelligent, but now study was interdicted, and she was sent into the country. A month later, in spite of this care, she had her first severe attack of convulsion. At first she had a fit once a month, and gradually oftener.

Careful inquiries were made as to "convulsions" in infancy, teething, worms, injury, etc., but there was nothing positive found. She had never menstruated. She was thin, pale, and languid; and her mind was defective. She would sit for hours and take no notice, especially *after* the fits. She would then sometimes cut up the sheets or stand naked, but *before* the attacks her mind was said to be clear and she behaved properly. Her temper was rather perverse, but she was never violent. Masturbation had been suspected, and she had been very carefully watched, but it was never detected. Her teeth were well formed. She was convulsed on both sides, and she had no "aura" from a limb. She had the sensation at the epigastrium so common in what is called

idiopathic epilepsy, but she had it for some hours before the attacks. They never lasted more than five minutes. She had the fits about twice a week when she came under my care. Bromide of potassium did her some good, but there was no decided permanent benefit.

Her sister Mary, aged 13, began five years ago to pass a large quantity of thick mucous urine. Then there was also an occasional streak of blood. When I saw her she was thin and wan, and was still passing the urine described, yet she had no pain, and, except the urine and the emaciation, had no decided ailment. The urine was milky-looking, and contained floeculent matter which settled to the bottom. By heat it was made more milky, and by nitric acid it became more minutely flocculent.

Her teeth were malformed as in congenital syphilis (Mr. Hutchinson was kind enough to look at them for me), but she had no opacity of the corneæ, and had never had any inflammation of the eyes. Her sight was then supposed to be good, but unfortunately I did not test it.

She improved remarkably under quinine and iron, but could not take cod-liver oil. About the end of July she began to have what her mother called faints. When out she would suddenly fall without obvious cause, occasionally the sight of the eyes failing first. She sometimes had several of these attacks in a day, and sometimes passed a week without one. On September 18th, however, her mother brought her to me on account of defect of sight. The right pupil was smaller than the left, and she could only just see shadows with the right eye. She said that this eye had been weak for some time, but that it had decidedly failed only a fortnight before. Practically she was blind on the right side, and on the other the sight was very much impaired. Both optic discs were atrophied, but the right much more so than the left. (Unfortunately I have no better account of the ophthalmoscopical appearances, so that it is not plain whether the optic atrophy was simple or after optic neuritis).

In November she began to be deaf on the left side, but this has not progressed.

In February, 1864, she began to menstruate, but still did

not improve as regards the faints, the amaurosis, the deafness, nor recently in the condition of the urine. Yet she looked better in general health.

May 10th, 1864. A few days ago a new symptom appeared. One day when walking the right foot twisted spontaneously, the heel being turned a little out and the toe in, and the foot placed so that the part touching the ground in standing would be the outer border. This only lasted a short time, but she had then pain in the calf, and could not for a short time straighten the leg. She had now pain over the left temple. I feared that this was a further development of epilepsy, but nothing more came of it.

The next patient of this family was Julia, aged 9. She was brought for slight deafness on the right side, attended by some discharge. This soon passed off, but in January, 1864, at the time when her brother had rheumatic fever, she had chorea At first the movements were on both sides, but soon the left only was affected. It continued so for about four months. She is now, May 11th, quite well in every respect, except that she has a mitral murmur, as she had when the chorea began. I regret that I did not examine the heart when she had the deafness only. She is a delicate-looking, blue-eyed, pretty child, and has a great deal of light silky hair. There was nothing about her to make one suspect syphilis. [She subsequently died of the effects of heart disease.]

The next case I relate is interesting, because both mother and son had the dental malformation so often mentioned. He, however, does not suffer in any way. His sister has fits, but presents no signs to warrant the diagnosis of syphilis. The condition of her mother and brother however renders it likely that she owes her diseased nervous system to transmitted taint.

Cases 5 & 6.—Signs of Congenital Syphilis in Mother and Son.—Epilepsy in the Mother and in a Daughter.

Mary W., aged 28, came under my care October 22nd, 1866. A month before, when in a shop, she had a fit which came on whilst she was "laughing and talking." She became insensible, was carried home, was put to bed, and knew nothing

of her state until three hours after, when she came to herself. She had had nine fits altogether, and in the last three the attacks had been preceded by a curious sensation in the head and by some kind of movement of the nose. She had had much violent pain in the head betwixt the fits. She had nebulous corneæ, her eyes having been bad when she was 18 or 19. She was then blind three months, being unable to see anything. Now the patient was married *before* her eyes were bad, and her first baby was nine months old when they were affected. It may be supposed, then, that these symptoms were the result of acquired disease, especially as we found nodes on her tibiæ dating three years back, and scars of ulcerations in the same place. But so far as I know, acquired syphilis does not produce keratitis, which she had evidently had, and it certainly could not be the cause of the dental malformation, which was well marked. It was clear to my mind that she was the subject of inherited syphilis, but she may also have acquired disease as well. Mr. Hutchinson, who saw her and her family, with me, was of this opinion. It seems the more likely from the fact that her eldest boy has also the dental malformation. It is the only suspicious sign he has that I can find or that I can hear of, signifying inherited taint. Now this woman's third child, five years old, has fits, and has been subject to them for three years. The child has no warning, and I know nothing more of them than that they are attacks of convulsions. She seems healthy.

I took the mother into the hospital for a short time, and she went out better in general health.

December 9th, 1867. I called on her and found her suffering much from a recent node on the left side of her head, at the occipito-parietal junction. She was suckling a healthy-looking baby three months old. Except that she rapidly improved under the use of iodide of potassium I know no more of her case.

Case 7.—Epileptic Hemiplegia, with Congenital Syphilis.

The seizures, so far as one can tell by the rather vague description which the mother gave, resemble those we not un-

frequently see as one result of aequired syphilis. Whenever, in an adult, a fit begins by eramp in one hand or one foot, or in the side of the faee, and especially if the patient is temporarily hemiplegic afterwards, we ought to inquire earefully for syphilis. I have not seen, exeept in the following instanee, fits of that kind in well marked *congenital* syphilis. Mr. Hutehinson has reeorded several eases of this kind.

The patient whose case is next related I saw in the practiee of Dr Brown-Sequard at the Hospital for the Epileptie and Paralysed. I have reeorded it in the "Med. Times and Gaz.," June 22nd, 1861.

Edward R., aged 14. June, 1861. He was quite well until he was three months old; he then had a rash all over him, "sores and boils," for whieh he was under medieal eare nine months; he did not use any ointment. He reeovered to some extent, but was always delieate. He beeame able to walk at two years of age, and talked very early. At the age of four he was paralysed, and ever sinee he has been subject to fits. Whilst out playing at the age above mentioned, he was seized with "a fit" whieh his mother said lasted from eight in the evening till two next morning; no doubt there was a sueeession of fits. It was found afterwards that he was paralysed on the right side. For three weeks he did not speak, but he soon reeovered the use of the right side, although not to walk. He slowly and gradually reeovered speech and power of motion. His mother says that she had again to teach him to walk. He had another fit six months afterwards. They gradually increased in frequency, and he now has them every week. When the fit is coming on he gives a seream, *the right arm and leg are drawn up,* he then becomes insensible and is eonvulsed. Uutil very lately the convulsive movements were entirely eonfined to the right side, but at present the other side also is affected. His mother says that in the fit his mouth is drawn to the left. The duration of the fit varies; it is generally five or ten minutes, but it has been as long as three and a half hours. He generally sleeps for some hours after the fits. Three years ago his eyes were bad, and now both corneæ show the remains of keratitis, but there is no iritis.

His upper central incisors present the malformation spoken of. His mind is evidently very weak, his manner restless and feeble, and his memory, especially for events, very bad. He cannot read, which may be accounted for somewhat by his imperfect sight, and also by the want of proper trials to educate him. His mother does not seem to suspect any taint, and no direct questions were asked.

In the same place, and in the next volume of the "Medical Times and Gazette," are recorded other cases from the practice of Mr Hutchinson.

Case 8.—*Convulsive Seizures in a Girl who has Malformed Teeth—Nervous Symptoms in the Child's Father.*

This case is interesting, as showing in another way the value of Mr. Hutchinson's researches. As will be seen, I take for granted in this instance that the peculiarly malformed teeth are by themselves sufficient evidence to warrant the diagnosis of congenital syphilis. It is only necessary to give the case in the merest outline. I speak first of the girl's father, for it is as furnishing evidence of the nature of his case that the child's state is of importance for my present purpose.

J. M., aged 45, was admitted into the London Hospital on October 2nd, 1866, and was by the courtesy of Dr. Andrew Clark transferred to my care on the 16th. He was lying in bed, apparently suffering intense pain in the head, and nothing could be got from him except vague complaints of this pain. His speech was not affected, although he would talk but little, saying chiefly, "Oh! my head." There was no evidence to show that his sight was affected, but it was impracticable to test it, except in the roughest manner. It was easily ascertained by the ophthalmoscope that there was double optic neuritis.

Now the only history which could be obtained of this illness was, that a week before admission he had a fit in the street, and although he walked home after it, he was confused, and had been, to use his wife's expression, "in a stupefied state ever since." He had had severe pains in his head, but no

vomiting except for a few minutes on one day. His only previous illness consisted in "rheumatics," which were possibly pains of a specific nature.

Under the use of iodides and bromides he recovered with great rapidity; went out apparently well except for damaged optic nerves. A patient who has optic neuritis is never safe, and he soon after came to the out-patients' room for more convulsions.

So far in the history, here is the case of a man who has had convulsions, severe pain in the head, and double optic neuritis. Whilst these symptoms declare conclusively, not only that there is intracranial disease, but that that disease is of a "coarse" kind (see foot note, page 152), they tell us nothing as to its particular nature. The coarse disease might have been "tumour," "abscess," etc. *The patient denied having ever had syphilis.*

In July, 1867, his daughter, 12 years of age, was brought to me for convulsive seizures, to which she had then been subject eight weeks. She had no warning, fell suddenly, was convulsed, did not bite her tongue. Now this girl had narrowed upper central incisors, and they were slightly notched. Mr. Hutchinson was kind enough to look at them, and declared them to be characteristic. She had nebulous corneæ, but this was doubtfully the result of past interstitial keratitis. Then the child's nose was sunken. The mother had had no miscarriages; the patient was the only child living. One child was dead born, and one died in half an hour.

In this child's case treatment by both iodides and bromides has been unsatisfactory. I grant that the knowledge that the child was the subject of syphilis did not help me to cure her. It is, I feel convinced, not warrantable to infer that "syphilitic epilepsy," either in the adult or in the child, should be easily curable by iodides, as there is no evidence to show that the changes in nerve tissues, on which the fits *directly* depend, are syphilitic. (See remarks on the three pathological varieties of syphilitic hemiplegia, page 153; also foot note page 152; and a note on *Substitution Nutrition*, Roy. Lond. Ophth. Hosp. Report, vol. v., part 4.)

The child's state, however, threw light on her father's case. It seemed to me almost certain that the lump of coarse disease inside his head—which the severe pain in the head, convulsions, and optic neuritis, declared to exist—was syphilitic "deposit," which had its origin in pia-matritis, if I may coin a word analogous to iritis.

The further history of the father's case confirmed this view. He next, October, 1867, had a recurrence of the severe headache, with partial deafness of the left ear and incomplete facial paralysis of the same side. Next, November, 1867, palsy of the left third nerve, and on February 18th, 1868, he was admitted under my care for hemiplegia of the right side and total loss of speech. I know of nothing but syphilis which produces *such* a disorderly *succession* of symptoms at distinct intervals over so long a period.

[Since the above was in type the patient* has died (on March 27th, 1868). The autopsy showed syphilitic disease of his brain, and thus confirmed the diagnosis founded on the above-mentioned clinical evidence.]

Excepting convulsions I have seen but one case of marked nervous symptoms in an *infant* who at the time showed signs of syphilis. In the exceptional case which I saw in Mr. Hutchinson's practice, there was spasm of the muscles supplied by the portio-dura nerve and paraplegia. I have, with the exception of this case, not yet seen affection of any motor cranial nerve with signs warranting the diagnosis of congenital syphilis. This is the more remarkable as palsy of the cranial nerves not unfrequently occurs from *acquired* syphilis. I have seen, in children, palsy of the third nerve, without *traceable*

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* In reprinting this article from the "Transactions," I have to add that the child also died soon after of typhoid fever. Although I examined the brain carefully I discovered no change whatever. There was no tubercle in the lungs. It may be supposed then, either that syphilis had nothing to do in causing the fits, or that syphilis may lead to minute changes in nerve tissue without the intermediation of disease of connective tissue. This subject is too large to be handled here. Recently (Sept., 1868) Dr. Mackenzie Bacon, of Fulbourne, shewed me a case in which striking nervous symptoms, including hemiplegia, occurred in a child, aged four and a half years, the subject of congenital syphilis. Dr. Bacon will shortly place this important case on record.

cause, and in some of these cases syphilis may have been at the bottom of the mischief.

I was consulted the other day by a woman 35 years of age, who had had palsy of both third nerves, and of both sixth nerves, from the age of six years, after scarlet fever. Were it not that syphilis rarely produces such symmetrical and complete local nervous symptoms, I should imagine there was inherited taint in this case. Except for suspicious looking scars about the mouth, attributed to smallpox when three years old, and for the fact that her mother had been twelve times pregnant and had but three children living, there was nothing to countenance the supposition.

I have seen cases of deafness from congenital syphilis, but chiefly in Mr. Hutchinson's practice, and for an account of these cases I may refer the reader to his book—"Clinical Memoir on certain Diseases of the Eye and Ear, consequent on Congenital Syphilis."